STATEMENT FOR THE RECORD

of

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Regarding a Hearing Entitled

"*Creating a Nation-wide, Integrated Bio-surveillance Network*"

Before the
U.S. House of Representatives
Committee on Homeland Security
Subcommittee on Prevention of Nuclear and Biological Attack

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INTRODUCTION

Mr. Chairman and Ranking Member Langevin and members of the Sub-Committee, I am Kimothy Smith, Chief Veterinarian and Acting Deputy Chief Medical Officer for the Department of Homeland Security. I appreciate this opportunity to discuss with you the National Bio-surveillance Integration System (NBIS).

The Department of Homeland Security is leading the NBIS program, an effort to develop an integrated and comprehensive bio-surveillance system which will answer the President's call for a 'timely response to mitigate the consequences of a biological weapons attack'. The Department of Homeland Security Preparedness Directorate has responsibility for the execution of this national interagency effort. The National Bio-surveillance Integration System will be the nation's first capability for comprehensive, integrated bio-surveillance situational awareness.

In this presentation I will explain the vision for the NBIS and its relevance to a wide range of federal agencies, state and local government, tribal authorities and the private sector. I will describe the relationships and functions which the National Bio-surveillance Integration System requires and exploits, as well as the results - the patterns and trends of a comprehensive integrated bio-surveillance situational awareness product as part of a National Common Operating Picture. I will present for you the challenges as we perceive them today and review the current state of NBIS development. Finally, I will present the 'next steps' in the development of the System and respectfully answer your questions if you have any.

VISION

The National Biosurveillance Integration System program was begun in FY05 for the purpose of integrating and fusing biosurveillance information streams from food, agricultural, public health, environmental monitoring and intelligence community from federal, state, private and international sources to provide continuous situational awareness, early warning of a possible attack, and a decision support system for outbreak and event response in the event of a biological incident whether intentional or naturally occurring. It is essential that I convey to you that NBIS is more than an information technology solution to the nation's integrated bio-surveillance challenge. The three vital component parts of the NBIS will be a robust information management system capable of handling large quantities of structured and unstructured information; a corps of specially skilled subject matter experts; and, the establishment of a culture of cooperation and mutual support within a our interagency (and other) partners . The heart of NBIS is relationships between people and the agencies and organizations they represent.

NBIS will have relationships with and personnel from a wide variety of federal agencies and other entities including the Department of the Interior, Department of State, United States Department of Agriculture, Department of Defense, Department of Health and Human Services and its operating divisions, the Centers For Disease Control and Prevention and the Food and Drug Administration, and the Department of Veterans Affairs. Trusted relationships will also be

established with state and local entities, civil and defense authorities, and with law enforcement, science, academia, health, and commercial sources (amongst others).

The purpose of the relationships which the NBIS will develop is to create a culture of trust which facilitates information sharing. The information acquired from a wide range of trusted partners will be 'fused' within the NBIS and subjected to interpretation and modeling algorithms. Subject matter experts from the various agencies and organizations will examine the collected and fused information providing informed interpretation, iterative modeling examinations and request reach-back consultations and queries when appropriate.

Fused information products, patterns and trends deduced and interpreted from bio-surveillance sources, will be provided to a primary NBIS partner, the DHS Office of Intelligence and Analysis (OI&A) for incorporation with intelligence analysis products. When appropriate the product can be forwarded to the wider Intelligence Community and pertinent threat analysis information then returned back to NBIS. The information can also be forwarded to the Homeland Infrastructure Threat and Risk Analysis Center (HITRAC) to inform critical infrastructure and key resource private sector partners. A two-way connection will be maintained between the NBIS, the Office of Intelligence and Analysis and the Intelligence Community since fused information will flow out, and intelligence assessments and analyses will flow back.

The final process of actionable information preparation fuses bio-surveillance patterns and trends with threat information. The completed product will be provided to the Homeland Security Operations Center for inclusion in the Common Operating Picture (COP). The Common Operating Picture is distributed via the Homeland Security Information Network (HSIN). This distribution closes the loop by providing near real-time streams of bio-surveillance situational awareness product back to NBIS partner agencies and organizations.

The National Bio-surveillance Integration System will leverage information sources from NBIS partner agencies and organizations as well as all available open-source information. Going back to the heart of NBIS, the trusted relationships developed with personnel, agencies and organizations will be vital to obtain access to the valuable, often sensitive and sometimes classified information collected and used by the NBIS partners. Information sources include environmental sampling information, for instance Project BioWatch which conducts aerosol monitoring for biothreat agents in metropolitan areas; human health surveillance (e.g. BioSense which reports syndromic surveillance information from hospitals, clinics, pharmacies, and other sources), animal health and food surveillance such as the Electronic Laboratory Exchange Network and diagnostic results collected through the National Animal Health Laboratory Network, plant health sources as those provided through the National Plant Diagnostic Network, open-source technical, medical, veterinary and non-governmental organization reporting as well as mainstream media sources. In order to obtain the necessary technical expertise, MOUs with partnering agencies will be developed.

By integrating and fusing this large amount of available information we can begin to develop a base-line or background against which we can recognize anomalies and changes of significance indicating potential biological events whether naturally occurring or from malicious intent.

The near real-time patterns and trends outputs of the NBIS, in combination with the threat streams analysis products for wide distribution via the Homeland Security Information Network (HSIN) realize the situational awareness mission solution-set envisaged in the President's 'Bio-defense for the 21st Century'. There are significant challenges to overcome, nevertheless.

CHALLENGES

I perceive several notable challenges to achieve this vision of a successful National Bio-Surveillance Integration System.

We recognize that a robust information management system is required. I use "robust" to indicate that the system must be capable of receiving large quantities of diverse information, structure that information into a standard format. Information will be sent to NBIS from many sources including federal, state, and local entities; both from civil and defense authorities; and from law enforcement, science, scholarship, health, and commercial sources. NBIS will accept such information from all sources, regardless of format, standardize the information, and prepare it for "fusion" with information from all other sources.

The information management system must enforce access controls for the inherently valuable, often sensitive and sometimes classified information being collected. These controls will be flexible enough to provide "need to know" access to appropriate users with the NBIS team members. NBIS will employ "state of the market" interpretive information analysis systems including automatic cataloging and pattern recognition software but will likely require development of unique algorithms for modeling and interpretation by the NBIS staff.

The NBIS will be a work environment for the best and brightest of all the participating agencies and organizations. Highly skilled and suitably trained subject matter experts must characterize the workforce employed in this dynamic, cross-functional, multi-disciplinary actionable information generating facility. In addition to holding skills important to home agencies such as research, scholarship, military science, intelligence, public health, and so on, analysts at NBIS must be familiar with the disciplines of their co-workers, and must also understand the nature of the information captured by the system, and have the capacity to operate information-merging and fusion applications to yield informed, useful, and actionable products.

NBIS team members must be able to interpret information and make deductions from analysis algorithms, and to ascribe an accurate level of confidence in their findings.

NBIS must personify a culture of trust among our interagency, private sector and government partners in order to be successful. Along with the development of relationships mentioned previously will be the development of this culture of trust to allow the sharing of sensitive information that in some cases is unprecedented between agencies and organizations. A respect and appreciation for these sensitivities, handling restriction and precautions must be demonstrated and a track-record established. Safeguards must be built into processes and become second-nature to personnel to ensure that information that is provided to NBIS along with resulting interpretations, patterns and trend information will not be misinterpreted, mishandled or inappropriately released.

The situational awareness product developed by NBIS must be of sufficiently high quality to represent an added-value to the information contributors and equal a total that is substantially more than the sum of its independent parts. If there is no daily relevancy to the missions of the individual agencies, they will be reluctant to share information collected by their bio-surveillance activities and will not participate as an NBIS partner.

CURRENT STATE

A pilot NBIS Information Management System has been established and is functional as of this calendar year. This system has provided some operational capability and many insights into the challenges of near-real-time bio-surveillance situational awareness, particularly for avian influenza. NBIS is producing daily situational awareness products and weekly situational reports for circulation internal to the Department of Homeland Security, a small number of interagency partners and the Homeland Security Council.

The pilot NBIS information management system has also provided a test-bed environment to further understand the requirements for the full robust information management system that is required for NBIS. An in-depth study defining the information and technical system architecture requirements for full NBIS functionality has been completed. This study has guided the request for proposals for implementation of the NBIS information management system and the draft Request for Proposals has been issued. If the current procurement schedule remains intact, I anticipate that the contract for this will be awarded mid-summer.

NBIS currently has a small staff with medical, biological and operational expertise and a limited ability for reach-back to additional subject matter experts, some of whom are interagency and interdepartmental. NBIS has one detailee onboard from the National Geospatial Intelligence Agency and expects to have a second detailee from the Department of Defense Northern Command very soon. NBIS operations are currently being staffed 24 hours 7 days per week. The NBIS is staffed at approximately 20% of the anticipated total personnel that will be needed when we are fully operational.

We continue to work to develop an ethos of trust and to educate both ourselves and our partners to optimize the potential of the NBIS. We are working hard to identify the needs and requirements of future NBIS participants and to demonstrate to both existing and candidate mission-partners the benefits NBIS can provide. Partnerships between the Department of Homeland Security National Bio-surveillance Integration System staff and Health and Human Services/Centers for Disease Control, the Department of Defense, United States Department of Agriculture, Department of the Interior and Department of State are being cultivated as the initial high importance participants in NBIS.

NEXT STEPS

As I have already mentioned there is a draft Request for Proposals out now for the information system implementation of NBIS we anticipate that the contract will be awarded by mid-summer. Once the selection of a contract performer has been made, the full implementation of NBIS will

begin and I anticipate rapid progress toward functionality with first functionality of the full NBIS Information Management System approximately 6 months after the award of contract.

The partnerships we are developing will increase the interagency NBIS staff of subject matter experts during the summer and fall of 2006 and we anticipate a full complement of personnel as the system is brought to first functionality.
In closing, I would like to say that the National Bio-surveillance Integration System is a top-priority initiative for the Department of Homeland Security. Our job is to ensure that the nation has the capability for comprehensive, integrated bio-surveillance situational awareness, early warning of a possible attack and a decision support system for outbreak and event response in the event of a biological incident whether intentional or naturally occurring.

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